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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Satoru Watanabe

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STAAS & HALSEY LLP

SUITE 700

1201 NEW YORK AVENUE, N.W.

WASHINGTON, DC 20005

EXAMINER

WOZNIAK, JAMES S

ART UNIT

PAPER NUMBER

2655

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/940,522	Applicant(s) WATANABE ET AL.	
	Examiner James S. Wozniak	Art Unit 2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2005.  
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 3 and 5-18 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☒ Claim(s) 7, 12, 14, 17 and 18 is/are allowed.  
 6) ☒ Claim(s) 3, 5, 6, 8-11, 13, 15 and 16 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☒ The drawing(s) filed on 20 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☒ All b) ☐ Some \* c) ☐ None of:  
 1. ☒ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Amendment*

1. In response to the office action from 5/31/2005, the applicant has submitted a request for continued examination, filed 8/31/2005, amending the claims 3, 5, 7, 9-13, and 15-16 while adding claims 17-18 and arguing to traverse the art rejection based on the limitation regarding reaction time range limits used for determining that a user interaction with a speech recognition engine is being smoothly conducted (*Amendment, pages 13-14*). The applicant's arguments have been fully considered but are moot with respect to the new grounds of rejection in view of Daudelin (*U.S. Patent: 4,797,910*) and Davis et al (*U.S. Patent: 5,583,922*).

### *Response to Arguments*

2. With respect to **Claims 5 and 15-16**, the applicant argues that the prior art of record fails to teach a progressive operator interaction (*Amendment, Pages 15-16*). The examiner points out that Davis et al (*U.S. Patent: 5,583,922*) teaches such a progressive interaction in the form of a standard update (involvement) of a user entry form at a operator station (Col. 9, Lines 1-11), direct interaction (parallel input of data) through data (Col. 11, Lines 36-58), and when necessary switching control to an operator for voice communication (Col. 11, Lines 36-58). The examiner also notes that Bohacek et al (*U.S. Patent: 6,411,687*) teaches a progressive interaction from a monitored speech recognition system session to operator involvement through switching (Col. 3,

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Line 60- Col. 4, Line 8). Although Bohacek fails to specifically recite an intermediate parallel data input mode, Davis discloses such a mode, as noted above, and thus, the combination of Bohacek and Davis also teach the claimed progressive operator interaction.

Thus, since Davis and the combination of Bohacek and Davis each teach a progressive interaction in the form of user data entry form updates, direct interactions, and direct voice interaction, Claims 5 and 15-16 remain rejected.

With respect to **Claims 9 and 10**, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., transferring a call to an operator when a response reaction time is exceeded, amendment, page 15) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

The applicant's arguments directed towards the remaining rejected claims have been fully considered but are moot with respect to the new grounds of rejection in view of Daudelin (*U.S. Patent: 4,797,910*) and Davis et al (*U.S. Patent: 5,583,922*).

The remaining dependent claims are argued as further limiting rejected independent claims (*Amendment, Page 17*), and thus, also remain rejected.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 3, 6, and 8** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Bohacek et al (U.S. Patent: 6,411,687) in view of Daudelin (*U.S. Patent: 4,797,910*) and further in view of Davis et al (*U.S. Patent: 5,583,922*).

With respect to **Claim 3**, Bohacek discloses:

A voice information input part for inputting user's voice information from a user terminal (*user phone call to an interactive voice response system which would inherently require a telephone or similar communication device, Col. 3, Lines 60-65*);

A voice recognition part for conducting voice recognition with respect to the voice information, and analyzing contents of the voice information (*speech recognizer used to collect information such as account number or billing data, Col. 3, Line 48- Col. 4, Line 8*);

A voice information mediation part for controlling a transmission path of the voice information in accordance with the contents of the voice information (*detecting user mood based upon speech samples to transfer an IVR system user to an operator for assistance, Col. 4, Lines 40-48, and Col. 3, Lines 17-30*);

An interaction engine for extracting contents of a response corresponding to the voice information by referring to a knowledge database, and creating a synthesized voice in accordance with the contents of a response (*interactive voice response unit that prompts a user for information, Col. 3, Lines 60-65, which would inherently require a memory for storing voice prompts*); and

A voice information output part for outputting the synthesized voice, wherein the voice information mediation part monitors at all times whether or not the user's interaction is being smoothly conducted, and in a case of determining that the user's interaction is not being smoothly conducted, allows a third-party user to participate (*requesting user information, Col. 3, Lines 60-65, and transferring the call of a frustrated IVR system user to an operator, Col. 3, Lines 17-30, and Col. 4, Lines 40-48*).

Bohacek does not specifically suggest the ability to transfer a call to an operator when a user fails to produce a response within response reaction time interval, however, Daudelin recites:

The voice information mediation part determines whether or not the user's interaction is being smoothly conducted based on an average reaction time from a response of the interaction engine to a reaction of the user, and in a case where the average reaction time exceeds a first threshold value or in a case where the average reaction time is below a second threshold value, allows a third-party user to participate in the interaction between the user and the interaction engine from another terminal as a helper (*timeout interval used to initialize a call transfer to an operator, which would inherently have starting and ending boundaries (lower and higher limits), Col. 11, Lines 23-54*).

Bohacek and Daudelin are analogous art because they are from a similar field of endeavor in speech recognition systems utilizing an option for operator assistance. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Bohacek with the use of a timeout interval to initialize a call transfer to an operator as taught by Daudelin in order to provide a means for determining whether an

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operator's assistance is necessary in interacting with a voice processing system that also minimizes substantial operator involvement (*Daudelin, Col. 2, Lines 52-61*).

Bohacek in view of Daudelin does not specifically suggest that an operator helps in an interaction between a first user and an interaction engine, however Davis teaches such an operator assistance method (*Col. 11, Line 36- Col. 12, Line 20*).

Bohacek, Daudelin, and Davis are analogous art because they are from a similar field of endeavor in speech recognition systems utilizing an option for operator assistance. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Bohacek in view of Daudelin with the method for operator assistance taught by Davis in order to provide a means for screening and categorizing calls for appropriate operator assistance (*Davis, Col. 12, Line 2-5*).

With respect to **Claim 6**, Bohacek discloses:

The interaction engine further includes an interaction history information storage part for recording interaction history on a user basis, and a helper selection part for selecting the third-party user that is considered to be most familiar with the contents of the interaction from the interaction history as a helper, and the helper most appropriate for contents of the voice information is selected (*previous customer data used to route a call to the most appropriate operator, Col. 4, Lines 24-39, and Fig. 1*).

With respect to **Claim 8**, Bohacek recites:

Interaction history display part for displaying the interaction history stored in the interaction history information storage part to a third-party helper user, and a helper instruction part for receiving a help instruction from the third-party helper user, wherein when the help

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instruction part receives the help instruction from the third-party helper user, the voice information mediation part enables the interaction between the third-party helper user and the user to be conducted, and when a degree of help of the third-party helper user exceeds a predetermined threshold value in interaction between the third-party helper user and the user, the interaction engine interacts only with the third-party helper user (*transferring interaction control to an appropriate operator when an annoyance threshold is exceeded, displaying customer data, and previous customer data, Col. 3, Lines 17-30, and Col. 4, Lines 30-39*).

5. **Claim 5, 11, 13, and 15-16** is rejected under 35 U.S.C. 103(a) as being unpatentable over Bohacek et al in view of Marx et al (*U.S. Patent: 6,173,266*), and further in view of Davis et al (*U.S. Patent: 5,583,922*).

With respect to **Claims 5 and 15**, Bohacek discloses:

A voice information input part for inputting user's voice information from a user terminal (*user phone call to an interactive voice response system which would inherently require a telephone or similar communication device, Col. 3, Lines 60-65*);

A voice recognition part for conducting voice recognition with respect to the voice information, and analyzing contents of the voice information (*speech recognizer used to collect information such as account number or billing data, Col. 3, Line 48- Col. 4, Line 8*);

A voice information mediation part for controlling a transmission path of the voice information in accordance with the contents of the voice information (*detecting user mood based upon speech samples to transfer an IVR system user to an operator for assistance, Col. 4, Lines 40-48, and Col. 3, Lines 17-30*);



An interaction engine for extracting contents of a response corresponding to the voice information by referring to a knowledge database, and creating a synthesized voice in accordance with the contents of a response (*interactive voice response unit that prompts a user for information, Col. 3, Lines 60-65, which would inherently require a memory for storing voice prompts*); and

A voice information output part for outputting the synthesized voice, wherein the voice information mediation part monitors at all times whether or not the user's interaction is being smoothly conducted, and in a case of determining that the user's interaction is not being smoothly conducted, allows a third-party user to participate in interaction between the user and the interaction engine from another terminal as a helper (*requesting user information, Col. 3, Lines 60-65, and transferring the call of a frustrated IVR system user to an operator, Col. 3, Lines 17-30, and Col. 4, Lines 40-48*).

Bohacek does not specifically suggest the ability to transfer a call to an operator when a response reaction time limit is exceeded, however, Marx recites:

The voice information mediation part determines whether or not the user's interaction is being smoothly conducted based on an average reaction time from a response of the interaction engine to a reaction of the user, and in a case where the average reaction time exceeds a first threshold value or in a case where the average reaction time is below a second threshold value, allows a third-party user to participate in the interaction between the user and the interaction engine from another terminal as a helper (*timeout condition used to initialize a call transfer to an operator, Col. 8, Lines 20-31, and Col. 9, Lines 52-65*).

Bohacek and Marx are analogous art because they are from a similar field of endeavor in interactive voice response systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to combine the use of a timeout condition to initialize a call transfer to an operator as taught by Marx with the interactive voice response system capable of transferring a caller to an operator upon detecting a predetermined level of frustration based on speech data as taught by Bohacek in order to implement a fallback method when speech is not properly recognized (*Marx, Col. 9, Line 66- Col. 10, Line 2*).

Bohacek in view of Marx does not specifically suggest the ability to determine interaction progress through interaction time and access amounts in order to initialize parallel input operator/user interaction, however Davis recites:

The contents of interaction with the user is displayed to the third-party user and the contents of interaction is updated by the third-party user, parallel input in which the third-party user conducts an input in parallel with the user, to switching in which the third-party user directly interacts with the user (*user information transferred to an operator and direct communication through data and voice, Col. 11, Line 36- Col. 12, Line 20; Col. 8, Lines 20-31; and Col. 9, Lines 1-33*).

Bohacek, Marx, and Davis are analogous art because they are from a similar field of endeavor in interactive voice response systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to combine the use of a parallel user/operator input as taught by Davis with the interactive voice response system and method capable of transferring a caller to an operator based upon a frustration level, recognition engine error amount, or a timeout condition as taught by Bohacek in view of Marx in order to provide a

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means for screening and categorizing calls for appropriate operator assistance (*Davis, Col. 12, Line 2-5*).

**Claim 11** contains subject matter similar to Claim 6, and thus, is rejected for the same reasons.

**Claim 13** contains subject matter similar to Claim 8, and thus, is rejected for the same reasons.

**Claim 16** contains subject matter similar to Claims 5 and 10, and thus, is rejected for the same reasons.

6. **Claims 9-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bohacek et al (U.S. Patent: 6,411,687) in view of Davis et al (*U.S. Patent: 5,583,922*).

With respect to **Claim 9**, Bohacek discloses:

A voice information input part for inputting user's voice information from a user terminal (*user phone call to an interactive voice response system which would inherently require a telephone or similar communication device, Col. 3, Lines 60-65*);

A voice recognition part for conducting voice recognition with respect to the voice information, and analyzing contents of the voice information (*speech recognizer used to collect information such as account number or billing data, Col. 3, Line 48- Col. 4, Line 8*);

A voice information mediation part for controlling a transmission path of the voice information in accordance with the contents of the voice information (*detecting user mood based upon speech samples to transfer an IVR system user to an operator for assistance, Col. 4, Lines 40-48, and Col. 3, Lines 17-30*);

An interaction engine for extracting contents of a response corresponding to the voice information by referring to a knowledge database, and creating a synthesized voice in accordance with the contents of a response (*interactive voice response unit that prompts a user for information, Col. 3, Lines 60-65, which would inherently require a memory for storing voice prompts*); and

A voice information output part for outputting the synthesized voice, wherein the voice information mediation part monitors at all times whether or not the user's interaction is being smoothly conducted, and in a case of determining that the user's interaction is not being smoothly conducted, allows a third-party user to participate (*requesting user information, Col. 3, Lines 60-65, and transferring the call of a frustrated IVR system user to an operator, Col. 3, Lines 17-30, and Col. 4, Lines 40-48*).

Bohacek does not specifically suggest that an operator helps in an interaction between a first user and an interaction engine, however Davis teaches such an operator assistance method (*Col. 11, Line 36- Col. 12, Line 20*).

Bohacek and Davis are analogous art because they are from a similar field of endeavor in speech recognition systems utilizing an option for operator assistance. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Bohacek with the method for operator assistance taught by Davis in order to provide a means for screening and categorizing calls for appropriate operator assistance (*Davis, Col. 12, Line 2-5*).

With respect to **Claim 10**, Bohacek in view of <sup>Davis</sup>~~Schne~~ teaches the interactive voice response system and method capable of transferring a caller to an operator upon detecting a

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predetermined level of frustration based on speech data, as applied to Claim 9. Although Bohacek in view of <sup>Davis</sup>~~Solter~~ does not specifically suggest method storage as a program on a computer readable medium, ~~the prior art does not teach~~ it would have been obvious to one of ordinary skill in the art, at the time of invention, to store the IVR method taught by Bohacek in view of <sup>Davis</sup>~~Solter~~ as a program on a computer readable medium to increase method compatibility and usability by providing a means for method use with multiple computer systems.

*Allowable Subject Matter*

7. **Claims 7, 12, 14, 17, and 18** are allowed.

8. The following is a statement of reasons for the indication of allowable subject matter:

With respect to **Claims 7, 17, and 18**, the prior art of record does not explicitly teach nor fairly suggests: the ability of an operator to assume complete control of an voice interaction engine in an interactive voice response system when it is detected that only an operator's voice continues for a predetermined time period during an error-initiated operator interaction session, in combination with a help request notification used for informing an operator of a user's failure to respond to an interactive voice system (error) and allowing the operator to voluntarily interact with the user in response to such a notification. Further the prior art of record also does not teach or fairly suggest the above features in combination with the aforementioned voice response system, wherein the voice response system utilizes a voice information mediation portion for

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performing the interaction error detection based on response time and sound quality thresholds to decide whether to transfer a user to third party operator assistance.

**Claims 12 and 14** further limit allowable claim 7, and thus are also considered allowable.

### *Conclusion*

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Scherer (*U.S. Patent: 5,867,562*)- teaches a method for call screening that allows an operator to aid in the use of an IVR system.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (571) 272-7632. The examiner can normally be reached on M-Th, 7:30-5:00, F, 7:30-4, Off Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on (571) 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James S. Wozniak  
10/12/2005



W. R. YOUNG  
PRIMARY EXAMINER